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APPLICATION NO. FILING DATE		FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.		
10/028,778 12/28/2001		12/28/2001	Hiroaki Tanaka	GNE463A	4276		
466	7590	12/05/2006		EXAM	EXAMINER		
YOUNG	& THOM	PSON	ERDEM, FAZLI				
745 SOU 2ND FLO	TH 23RD S' OOR	TREET	ART UNIT	PAPER NUMBER			
	TON, VA	22202	2826				
				DATE MAILED: 12/05/2000	DATE MAILED: 12/05/2006		

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary Examiner		•	Application N	lo	Applicant(s)					
Fazil Erdem 2326			10/028,778		TANAKA ET AL.					
Preiod for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. Extensions from my be existed used the processor of 30 FR 113(6), into event, however, may a reply be timely filled If NO period for reply is specified above, the maximum statistory priorits will apply and will exply any will prevent the mailing date of this communication. Failure for gray which the set of exceeded period for reply is specified above, the maximum statistory priorits will apply and will exply any will prevent the mailing date of this communication. Failure for gray which the set of exceeded period for reply is specified above, the maximum statistory priorits will apply and will exply any will prevent any adjustment. Provided by the Cfline list than these months after the mailing date of this communication, even if timely filed, may reduce any event period will apply any will be set to explore the provided by the communication. Provided by the communication of the mailing date of this communication, even if timely filed, may reduce any event period will apply any will be set to explore the mailing date of this communication. Provided by the provided provided by the provided will be provided by the		Office Action Summary	Examiner		Art Unit	•				
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1) Responsive to communication(s) filed on 20 September 2006. 2a) This action is FINAL. 2b) This action is non-final. 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 2.4,6.8-11 and 15-53 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5) Claim(s) 2.4,8-11 and 15-53 is/are allowed. 6) Claim(s) 5 is/are rejected. 7) Claim(s) is/are objected to. 3) Claim(s) are subject to restriction and/or election requirement. Application Papers 9) The specification is objected to by the Examiner. 10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) objected to. See 37 CFR 1.121(d). 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152. Priority under 35 U.S.C. § 119 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1 Certified copies of the priority documents have been received. 2 Copies of the certified copies of the priority documents have been received in Application No 3 Copies of the certified copies of the priority documents have been received. Attachment(s) 1) Notice of Praftspersons Patent Drawing Review (PTO-948) 3) Information Disclacure Statement(s) (PTO/S908) 5) Notice of Informal Patent Application	A SH WHIC - Exter after - If NO - Failu Any r	ORTENED STATUTORY PERIOD FO CHEVER IS LONGER, FROM THE MA isions of time may be available under the provisions o SIX (6) MONTHS from the mailing date of this commu period for reply is specified above, the maximum state re to reply within the set or extended period for reply we pely received by the Office later than three months aft	ALING DATE OF THIS (f 37 CFR 1.136(a). In no event, h nication. utory period will apply and will exp ill, by statute, cause the application	COMMUNICATION owever, may a reply be timing ire SIX (6) MONTHS from to become ABANDONE	I. ely filed the mailing date of this communication (35 U.S.C. § 133).	•				
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DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 9/20/2006 have been fully considered but they are not persuasive. Applicant's claim 6 reads "the first multilevel conductive structure including a TiN film located at a top of the first multilevel conductive structure, an Al-based film located below the TiN film, and at least one Ti film located at least one of an upper position and a lower position with respect to the Al-based film." According to this requirement, Al film certainly is located in the middle. Hence, Hibino et al disclose the Al-film being in the middle.

Allowable Subject Matter

1. Claims 2,4,8-11 and 15-53 allowed.

Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Hibino et al. (6,529,251) in view of Shimada et al. (6,448,578)

Regarding Claim 6, Hibino et al. disclose a liquid crystal display device and method of manufacturing the same where in Fig. 4, a three layer gate electrode structure with a top layer 15 or TiN, a middle layer 14 of Al and a lower layer 13 of Ti. Hibino et al. fail to

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disclose the required nitrogen concentration in TiN layer and the required scan line connection to the gate electrode. However, Shimada et al. disclose a thin-film transistor and liquid crystal display device where in column 1 the required relationship between the scanning line and the gate electrode is disclosed. Furthermore, in column 7, the required nitrogen concentration is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required scanning line and gate electrode connection and the required nitrogen concentration in the TiN layer in Hibino et al. as taught by Shimada et al. in order to have a semiconductor device with less film peeling problem during manufacture of thin film transistor.

Conclusion

4. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (571) 272-1914. The examiner can normally be reached on M - F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FE November 26, 2006

> EVAN PERT PRIMARY EXAMINER